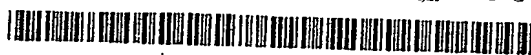


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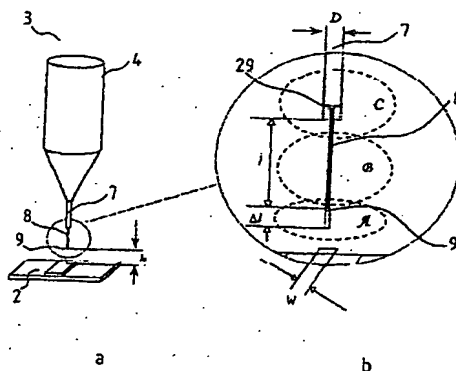
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(54) Title: A METHOD AND APPARATUS FOR INSPECTION OF HIGH FREQUENCY AND MICROWAVE HYBRID CIRCUITS AND PRINTED CIRCUIT BOARDS



(57) Abstract: The invention relates to a method and apparatus for the inspection of high frequency and microwave circuits such as printed test circuit boards. The invention uses a probe or antenna (3) which is separated from the device under test (DUT) (2). The invention provides a relatively long central protruding conductor (8) for the antenna (3) which protrudes from its shielding (7). In the method, the antenna (3) is used to acquire microwave electromagnetic field measurements in a near field region of a test point of the DUT (2). Generally, this is done at two test positions with a difference in separation ( $\Delta$ ) between the apex (8) of the antenna (3) and the DUT (2). The two test results are calculated and recorded and the difference of the microwave properties of the two tests is obtained to provide information about the operation of the DUT (2). The antenna (3) can be either a straight electric field antenna or loop antenna. Further, the antenna (3) can be inclined to the vertical and thus it is possible, by taking a series of measurements, to obtain both the phase and frequency of the currents being carried by the DUT (2) when it is energised.

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